

**REMARKS/ARGUMENTS**

Responsive to the Office Communication dated December 19, 2005, Applicant has amended the subject application to address each of the grounds of claim rejection raised by the Examiner as well as to address other objections raised by the Examiner.

Claims 1-34 were pending in the application. Pursuant to a restriction requirement, claims 4-5 and 22-34 were previously withdrawn from consideration. Election of claims 1, 2 and 6-21 was made without traverse.

**Specification:**

In the specification, the priority claim beginning on page 1 line 1 has been corrected to indicate that the subject application is a utility application of a provisional application serial number 60/202,788 filed on May 9, 2000. The subject application was improperly characterized as a continuation-in-part application. It is recognized that such a designation is inconsistent with MPEP §201.08. Correction of the specification has been made to indicate that the present application is a nonprovisional application which claims priority to a provisional application. A corrected Supplemental Declaration has also been made. The Supplemental Declaration also provides the mailing address of the inventor.

**Claim Objections:**

The Examiner objected to Claim 1 because it is not a complete sentence. It is noted by the undersigned, that in the course of complying with the Notice to File Corrected Application Papers dated August 15, 2001, and more specifically, in complying with the requirement to provide a specification, claims and abstract that is at least 1.5 spaced, an inadvertent error was made to Claim 1 whereby Claim 1 was split into two claims. New Claim 1 consists of the preamble of the original Claim 1 and new Claim 2 consists of the remaining portion of original Claim 1. This oversight was not noted prior to the Examiner's office action.

In light of this inadvertent split of original Claim 1, the dependency of the remaining claims was affected. In response, Applicant has cancelled Claims 1 and 2 and offered new Claim 35 which substantively reflects the recombination of Claims 1 and 2, into a single claim as originally filed and intended, with one additional limitation concerning the infrared heating energy source. It is believed and argued herein, that the additional claim limitation of Claim 35 renders the subject application patentable.

#### **Claim Rejections Under 35 U.S.C. § 112**

The Examiner rejected Claims 1 and 2 under 35 USC § 112 first paragraph as failing to comply with the enablement requirement. As indicated above, the Claims 1 and 2 represent the unintentional split of the original filed Claim 1 into two claims. Claims 1 and 2 have been cancelled and been replaced with new Claim 35.

Claims 6 through 21 were rejected under 35 USC § 112 second paragraph as being indefinite for containing subject matter lacking proper antecedent basis. It is believed that the amendments to Claims 6-21 now afford proper antecedent basis for each element of the respective claims.

Claim 12 was specifically rejected for lack of a positive antecedent basis. In reviewing the office action, it would appear that the Examiner's rejection should be directed at Claim 11, which references "the energy sources." In either event, Applicant has cancelled Claims 11 and 12.

#### **Claim Rejections Under 35 U.S.C. § 102**

The Examiner rejected Claim 1 under 35 USC § 102b as being anticipated by either Wyatt (US 5,749,986) or "applicant submitted information disclosure statement non patent literature reference." Claim 1 has been cancelled.

Claims 2 and 6 through 21 were rejected under 35 USC § 102b as being clearly anticipated as “being clearly anticipated applicant submitted information disclosure statement non patent literature reference.”

The undersigned, who was not the original attorney associated with this application, has reviewed the file, including the Information Disclosure Statement. The Information Disclosure Statement indicates, with respect to the materials submitted therewith, that “Applicant’s brochure TB-294 (Back Lower Right) Items 1 through 3 of the enclosed brochure are related equipment of the applicant, while items 4 and 5 are subject of the present invention.” As the original attorney, Mr. Lewandowski is no longer associated with the undersigned’s firm or this application, it is unclear why this representation was made with respect to the brochures attached to the IDS. These brochures do not represent “the subject of the present invention.” The undersigned has secured the declaration of Thomas Shiveley, the inventor, indicating that the brochures only show prior art infrared heating devices sold conventionally by the inventor, through Innovative Industries. The devices shown in the brochures are not the subject of the present invention insofar as none include the ultraviolet energy source discussed at great length and claimed in the application. As indicated above, the devices are solely infrared heating devices having only infrared energy sources. As such, these brochures do not show or teach each element of the present invention; namely the UV energy source, and should not be considered under 35 U.S.C. § 102.

The declarations of Mr. Shiveley and the undersigned with respect to this matter are filed herewith.

#### **Claim Rejections Under 35 U.S.C. § 103**

The Examiner rejected Claim 2 under 35 USC § 103(a) as being unpatentable over Wolinski et al. (US 2,876,187) in view of Dulay (US 5,117,562).

Claims 6 through 8 and 10 through 21 were rejected under 35 USC § 103(a) as being unpatentable over Wyatt in view of Dulay.

Claim 9 is rejected under 35 USC § 103(a) as being unpatentable over Wyatt in view of Dulay in further view of Turnbull et al. (US 3,851,402).

In response, Applicant has cancelled Claim 2 and filed new Claim 35 which claims the substance of cancelled Claims 1 and 2 in combination, with the additional Claim limitation that the at least one infrared heating energy source “is selectively programmable to produce short, medium, and long wavelength infrared energy.” Support for this additional limitation is found repeatedly throughout the specification including on page 7, lines 22-24; page 8, lines 9 – page 10, line 5.

The present invention discloses a “versatile laboratory/pilot test system for extensive thermal and ultraviolet processing arrangements [of]...a wide array of coatings...applied to various work-piece materials...” Page 7, line 20 – page 8, line 7. The ability of the at least a first infrared energy source to produce short, medium, and long wavelength energy is inextricably related to the versatility of the invention. Specifically, associated users can create, program and then test optimum energy exposure processes, which may combine one or more of short, medium and long wavelength infrared and ultraviolet energy. In this way, the associated user may quickly determine the optimum process conditions for a particular coating on a particular substrate. Providing an infrared energy source which is capable of delivering short, medium, and long wavelength infrared energy provides novel flexibility not found in any other device. Combining such an infrared energy source with at least one ultraviolet energy source affords the associated user with the broadest range of curing processes. None of the devices shown in the prior art provide this kind of flexibility as none of the devices, including those that may combine an ultraviolet source with an infrared source, disclose, teach or otherwise suggest that the infrared energy source is capable, or programmable, to produce short, medium and long wavelength energy.

Applicant has reviewed all of the prior art references recited by the Examiner alone or in combination and none of the references appear to disclose a device comprising at least one infrared heating energy source that is selectively programmable to produce short, medium, and long wavelength infrared energy. The terms “short”, “medium” and “long” wavelength infrared

will be understood by one of ordinary skill in the art as referring to distinct ranges of wavelengths in the infrared spectrum.

None of the prior art references disclose this kind of flexibility. The flexibility afforded by an infrared heating source that is selectively programmable to produce short, medium, and long wavelength infrared energy is of noted importance, particularly with reference to the acknowledgment in the specification that short, medium, and long wavelength infrared energy penetrate to different depths. Short wavelength infrared energy is distinguished from medium and long wavelength infrared energy on grounds that “medium wavelength infrared energy source releases its energy into the coating; however it does not penetrate deep enough in the coating to introduce energy into the substrate (work piece). Long wavelength infrared energy sources introduce energy to the surface molecules (only). The energy is then slowly conducted inward hot air convection energy is introduced to the surface molecules (only). The energy then is slowly conducted inward. On the other hand, short wavelength infrared energy introduces its energy deep into the coating thickness and normally extends through the coating with some energy introduced into the workpiece. This approach permits the ability of introducing reasonably large energy level into the coating curing process offering rapid curing without damage to the coating.” (Page 11, lines 14 through 25.) In light of the significant distinctions between short, medium and long wavelength infrared energy with respect to a curing process, it is not merely a matter of design choice to select a short wavelength energy infrared source versus a medium or long wavelength infrared energy source. Rather, one process which may benefit from short infrared pulses may not be suitable for a different curative or substrate, which may benefit from long wavelength infrared pulses. The present invention permits both processes to be tested in one device.

U.S. patent 5,749,986 to Wyatt does not disclose an infrared heating energy source that is selectively programmable to produce short, medium, and long wavelength infrared energy. Wyatt teaches a device that measures voltages produced in materials undergoing certain processes. These voltages may be used to control certain functions, but there is no reference to infrared heating sources or selectively programmable infrared heating sources that are capable of produce short, medium and long wavelength infrared energy.

None of the references cited by the Examiner teach the use of a short wavelength infrared heating source.

U.S. Patent 5,117,562 teaches a radiant energy ink drying device for drying ink on paper exiting a printer. The problem being addressed in the '562 Patent concerns controlling temperature in radiant energy drying devices to prevent a fire hazard. "The present device is directed to a drying device. The device includes a light box for emitting radiant energy and means for cooling the light box. The device also includes a temperature sensing means for sensing the temperature of the drying area of the light box and generating a temperature signal. The temperature signal is received by a processing means which controls the operation of the cooling means. When the temperature signal is above a predetermined threshold the processing means activates the cooling means." C. 1, ll. 41-51.

The '562 patent discloses a light box **15** which produces "radiant heat energy due to the infrared bulbs **45**..." C. 7, ll. 23-25. The preferred "radiant energy emitting means **45** is an instant-on/instant-off infrared bulb..." C. 3, ll. 6-8.

Two methods of controlling temperature are described. One method involves activating a cooling fan. The other method involves "adjust[ing] the radiation from the infrared bulbs **45**." C. 8, ll. 6-7. Adjustment of the infrared bulbs does not include transitioning the bulbs from short wavelength emitters to medium or long wavelength emitters. Rather, control of the radiation occurs by pulsing the infrared bulbs on and off at selected intervals. This is not equivalent to providing an infrared source that is selectively programmable to produce infrared light of different wavelengths. It is noted that the '562 Patent states "since bulbs **45** are instant on/instant off bulbs, by pulsing the bulbs on and off at selected rates, the overall intensity of the radiation from the bulbs **45** may be controlled." C. 8, ll. 7-9.

None of the remaining prior art references teach a device combining an infrared energy source that is selectively programmable to produce short, medium, and long wavelength energy, with an ultraviolet energy source and the other claim elements set forth in Claim 35. None of the devices taught in any of the prior art are capable of the testing flexibility across many different coatings and substrates. None of the devices taught in any of the prior art are capable of testing multiple different curing processes that incorporate different types and levels of infrared energy

in combination with ultraviolet energy. None of the prior art references teach, individually or in combination, all of the limitations set forth in Claim 35. Applicant believes, therefore, that Claim 35 is allowable over the prior art cited by the Examiner. Claims 6 through 21 have been cancelled or otherwise amended to depend from independent Claim 35 which, as amended, is allowable. Therefore the remaining of Claims 6 through 21 which are not cancelled should be allowed.

Finally, the Examiner has issued a non statutory double patenting rejection on grounds of the device being unpatentable over Claims 1 through 9 of U.S. Patent 6,520,097 and Claims 10 through 20 of U.S. Patent Reissue Application 11/062,352, both in view of Dulay. Applicant respectfully argues that this double patenting rejection is improper in light of the discussion above and the amendments to the claims. The '097 Patent and the '352 Application are directed to methods for incinerating contaminants on articles using infrared energy heaters. There is no reference in the cited claims to ultraviolet energy sources, which have particular application in the curing industry, and thus, are incorporated and described in the present invention.

As described above, Dulay does not teach the specific limitations on the infrared energy source claimed in Claim 35 (selectively programmable to produce short, medium, and long wavelength energy.) There is no motivation to combine a device that superheats articles to the point of incineration of the contaminants, with a device that is directed to curing ink on paper.

In light of the arguments set forth herein, the Examiner is kindly asked to withdraw the double patenting rejection.

**CONCLUSION**

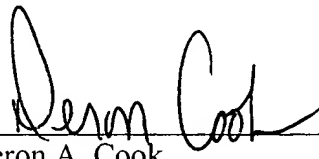
Applicant now believes that it has addressed each of the Examiner's grounds of rejection either through cancellation or amendment of affect claims. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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